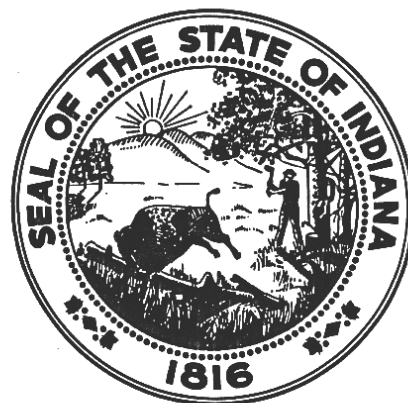


**CORRELATION OF THE INFORMATION LITERACY STANDARDS AND
INDIANA'S ACADEMIC STANDARDS FOR
TECHNOLOGY EDUCATION**



**Prepared by the
Indiana Department of Education
School Library Media Specialists' Leadership Cadre
Information Literacy Task Force Committee**

March 2003

ACKNOWLEDGEMENTS

The preparation of this Inspire enhanced document would not have been possible were it not for the individual and collective efforts of several key people:

Phyllis Land Usher, Assistant Superintendent, Indiana Department of Education Center for School Improvement and Performance for her vision; Dorothy Winchester, IDOE Director of Program Development and Lynn Soskel Davis, Training Coordinator, Division of Human Resources for their collaborative efforts; Nancy McGriff, Vickie Thomas, Mary Watkins, and Marge Cox, Indiana Association of Media Educators members for their direction, leadership, and professional expertise. INCOLSA's support of these "INSPIRED Correlations" was critical to their completion.

Classroom teachers and library media specialists shared their expertise for this document. Their work to impact instruction through the Indiana Academic Standards, Correlations and INSPIRE will be appreciated by thousands of students and teachers. The following people gave of their time and talents to complete these "INSPIRED Correlations".

Marge Cox, Chairperson, Media Services Director, Noblesville Schools, Noblesville, IN
Rick Jones, Co-Chairperson, Library Media Specialist, Eastbrook Junior/Senior High School, Marion, IN

Emily Boerger, Glenn Acres Elementary School, Lafayette, IN
Sandy Brown, Allisonville Elementary School, Indianapolis, IN
Deena Chambers, Lewis Cass Junior Senior High School, Walton, IN
Carrie Corzine, Floyd-Central Junior Senior High School, Floyds Knobs, IN
Rose Dixon, Terre Haute South High School, Terre Haute, IN
Lauralee Foerster, Glen Acres Elementary School, Lafayette, IN
Bonnie Grimble, Carmel High School, Carmel, IN
Judith Hamilton, Chauncey Rose Middle School, Terre Haute, IN
Dennis Hoffman, Clinton Prairie Elementary School, Frankfort, IN
Danelle Jentges, Julia E. Test School, Richmond, IN
Meredith Leck, Central Elementary School, Zionsville, IN
Ann McCracken, Tippecanoe School Corporation, Lafayette, IN
Sheridan Rayl, Anderson University, Anderson, IN
Sharon Roualet, Edgewood High School, Ellettsville, IN
Cheryl Shinabarger, MSD SW Allen County Schools, Fort Wayne, IN
Vicki L. Thomas, Anderson High School, Anderson, IN
M. Elizabeth Winningham, Avon Intermediate School, Avon, IN
Regina Wright, Snacks Crossing Elementary School, Indianapolis, IN
Gary Wynn, Greenfield-Central High School, Greenfield, IN

Laura J. Taylor, Director,
Office of Learning Resources

Judy R. Williams
Library Media Consultant

ACKNOWLEDGMENTS

The preparation of this document would not have been possible were it not for the individual and collective efforts of several key people.

The leadership role and encouragement of Phyllis Land Usher, Assistant Superintendent, Center for School Improvement and Performance provided the vision, impetus, and funding for the project from the first contact by the Association of Indiana Media Educators (AIME) leadership until completion of the first phase of this project.

Nancy McGriff, working as a member of the SLMS Cadre and the initial AIME Committee, carried the responsibility for developing the framework and assembling the personnel to develop the document. During the 2001-2002 academic year, Vickie Thomas and Mary Watkins, members of the SLMS Cadre and state AIME chairpersons, assumed the leadership role with the correlations for music, physical education, social studies, and visual arts. Marge Cox, AIME past president, continued the process for the 2002-2003 academic year. The key members of the SLMS Information Literacy Standards Task Force involved in the entire process of actual reading, writing, and editing of the correlation document are:

Rick Jones, Chairperson, Library Media Specialist, Eastbrook Jr/Sr High School Marion, IN
Carrie Corzine, Library Media Specialist, Floyd-Central Jr/Sr High School, Floyd Knobs, IN
Dr. Richard D. Seymour, Associate Professor, Ball State University, Muncie, IN
Cheryl Shinabarger, Director of Media, MSD Southwest Allen County, Fort Wayne, IN
Gary Wynn, Technology Education Instruction/Department Chairperson, Greenfield-Central High School, Greenfield, IN
Ronald D. Yuill, Technology Education Department Chair and Teacher, Tecumseh Middle School, Lafayette, IN

Special recognition for their generous contribution in time and encouragement are extended to Dorothy Winchester, IDOE Director of Program Development; and Gregg Steele, Technology Education Specialist.

Laura Taylor, Director
Office of Learning Resources

Judy R. Williams
Library Media Consultant

INDIANA INFORMATION LITERACY STANDARDS FOR STUDENT LEARNING

The Indiana Department of Education, Office of Learning Resources, supports the need for the Indiana Academic Standards 2000 to address student library information literacy standards. Charged with this task, the School Library Media Specialists' (SLMS) Cadre Information Literacy Task Force Committee, a collaborative committee of members of the Indiana Department of Education's Technology Leadership School Library Media Specialists and the Association of Indiana Media Educators (AIME), developed a correlation document. It correlates to the Nine Information Literacy Standards developed by the American Association of School Librarians (AASL) and the Association for Educational Communications and Technology (AECT) into Indiana's Academic Standards for Technology Education.

A copy of this document, Correlation of the Information Literacy Standards and the Indiana's Academic Standards for Technology Education is available at www.doe.state.in.us/olr.

Purpose of the Correlation of Library Information Literacy Standards and Indiana's Academic Standards for Technology Education

The mission of the school library program as stated in Information Power: Building Partnerships for Learning (1998) is to "ensure that students and staff are effective users of ideas and information."

The Correlation of the Information Literacy Standards and Indiana's Academic Standards for Technology Education identifies the School Library Information Literacy Standards in the newly adopted Indiana's Academic Standards for Technology Education. SLMS will use these standards to work cooperatively with the building principals, classroom teachers and other professional staff members to insure that student library information literacy standards are taught through a collaborative effort in all curricular areas.

Indiana Legal Requirements for School Library Media Program

The Indiana Administrative Code, 511 IAC 6.1-5.6 Media Program delineates the minimum requirements for a school library media program:

Sec. 6. All schools shall have a media program that is an integral part of the educational program. A licensed media specialist shall supervise the media program. Each school shall spend at least eight dollars (\$8) per student per year from its 222000 account to maintain its media program. (*Indiana State Board of Education; 511 IAC 6.1-5.6; filed Jan 9, 1989, 11:00 a.m.: 12 IR 1192*)

RELATIONSHIP BETWEEN READING IMPROVEMENT AND SCHOOL LIBRARY MEDIA PROGRAM

The direct relationship between reading improvement and an active school library media program staffed by a licensed professional librarian is substantiated by research studies released within the past two years in Colorado, Pennsylvania, and Alaska. [These published studies include: How School Librarians Help Kids Achieve Standards; the Second Colorado Study (April 2000); Information Empowered: The School Librarian as an Agent of Academic Achievement in Alaska Schools (1999); Measuring Up to the Standards: The Impact of School Library Programs and Information Literacy in Pennsylvania Schools (February 2000).]

A Study of the Differences Between Higher-and Lower-performing Indiana Schools, a study by NCREL commissioned by Superintendent of Public Instruction, Dr. Suellen Reed, was published in February 2000. The study reports one necessary component to increase student performance in lower-performing schools is to “increase student access to instructional and print materials in lower-performing schools, including regular and flexible access to a working library.”

In this context, a working school library with flexible access is open during the regular school hours, is staffed by a professional, licensed school library media specialist, and provides for open and easy access by individual students. Using best practices supports the use of collaboratively planned units involving the classroom teacher and the school library media specialist (SLMS). Dr. David V. Loertscher in Reinventing Indiana's School Library In the Age of Technology: A Handbook for Principals and Superintendents states that the library collection shall contain the “right materials for the right learners at the right time in every format available” to support curriculum and recreational reading needs. Through the use of Library Information Literacy Standards, teachers and SLMS work cooperatively to plan, teach, and assess the progress of students' learning.

THE NINE INFORMATION LITERACY STANDARDS FOR STUDENT LEARNING

Information Literacy

The student who is information literate

ILS 1: **accesses information** efficiently and effectively.

ILS 2: **evaluates information** critically and competently.

ILS 3: **uses information** accurately and creatively.

Independent Learning

The student who is an independent learner is information literate and

ILS 4: **pursues information** related to personal interests.

ILS 5: **appreciates** literature and other creative expressions of **information**.

ILS 6: strives for excellence in information seeking and knowledge generation (**generates knowledge**).

Social Responsibility

The student who contributes positively to the learning community and to society is information literate and

ILS 7: **recognizes the importance of information in a democratic society**.

ILS 8: **practices ethical behavior** in regard to information and information technology.

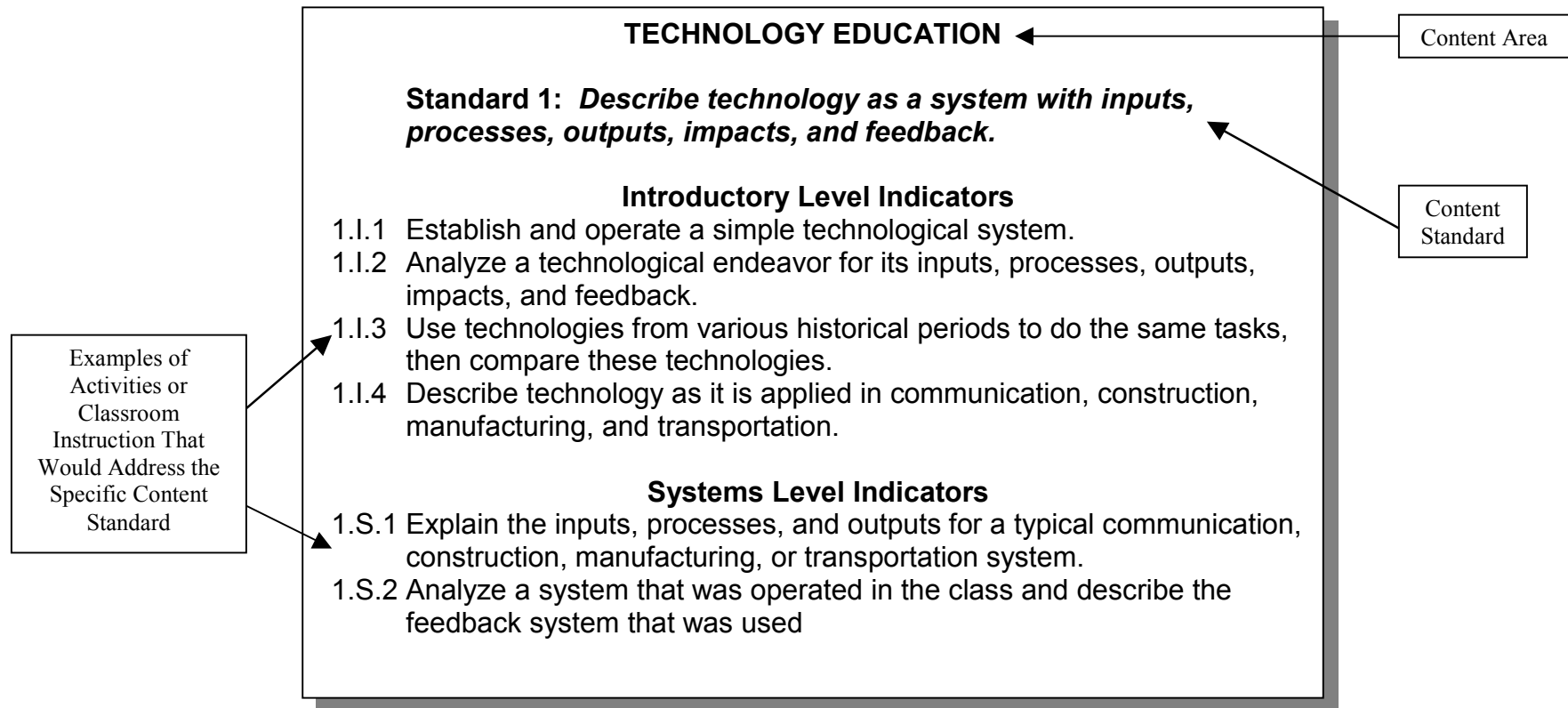
ILS 9: participates effectively in groups to pursue and generate information (**shares and collaborates**).

* **Bold face** on this page indicates shortened phrasing used in listing of Information Literacy standards in the [Correlation of the Library Information Literacy Standards and Indiana's Academic Standards for Technology Education](#).

** "From *Information Power: Building Partnerships for Learning* by American Association of School Librarians and Association for Educational Communications and Technology. Copyright © 1998 American Library Association and Association for Educational Communications and Technology. Reprinted by permission of the American Library Association."

READING THE STANDARDS AT EACH GRADE LEVEL

Each of the Technology Education Standards includes the following components to aid teachers in understanding and incorporating them into their instruction.



INDICATOR NUMBER	<p style="text-align: center;">CORRELATION OF THE INFORMATION LITERACY STANDARDS AND INDIANA'S ACADEMIC STANDARDS FOR TECHNOLOGY EDUCATION</p> <p style="text-align: center;">Release date 2002</p>	ILS 1	ILS 2	ILS 3	ILS 4	ILS 5	ILS 6	ILS 7	ILS 8	ILS 9
		ACCESSES INFORMATION	EVALUATES INFORMATION	USES INFORMATION	PURSUES INFORMATION	APPRECIATES INFORMATION	GENERATES KNOWLEDGE	RECOGNIZES IMPORTANCE OF INFO TO DEMOCRATIC SOCIETY	PRACTICES ETHICAL BEHAVIOR	SHARES AND COLLABORATES
	Standard 1: Describe technology as a system with inputs, processes, outputs, impacts, and feedback.									
	Introductory Level Indicators									
1.I.1	Establish and operate a simple technological system. INSPIRE>Kids' Links>How Stuff Works Express	X	X	X	X	X	X			
1.I.2	Analyze a technological endeavor for its inputs, processes, outputs, impacts, and feedback. INSPIRE>Kids' Links>How Stuff Works Express	X	X	X	X		X	X	X	X
1.I.3	Use technologies from various historical periods to do the same tasks, then compare these technologies. INSPIRE>Indiana Links>History>Conner Prairie	X	X	x	x	x	x	x	X	X
1.I.4	Describe technology as it is applied in communication, construction, manufacturing, and transportation. INSPIRE>Kids' Links>How Stuff Works Express	X	X	X	X	X	X	X	X	X
	Systems Level Indicators									
1.S.1	Explain the inputs, processes, and outputs for a typical communication, construction, manufacturing, or transportation system. INSPIRE>Kids' Links>How Stuff Works Express	X	X			X	X			X
1.S.2	Analyze a system that was operated in the class and describe the feedback system that was used.	X	X	X	X	X	X	x	X	X
1.S.3	Analyze a technological system commonly found in the home and describe its positive and negative impacts on people and the environment. INSPIRE>Kids' Links>How Stuff Works Express	X	X	x	X	X	X	x	X	X
	Process Level Indicators									
1.P.1	Select a machine used in a current communication, construction, manufacturing, or transportation process and evaluate its total costs: purchase, operation, and maintenances/re-pair.	X	X	X	X	X	X	X	X	X
1.P.2	Design a method to evaluate the effectiveness of a technological process by using an external feedback system.		X			X	X			X
	Application Level Indicators									
1.A.1	Describe the inputs, processes, and outputs for a model technological enterprise operated in the class.	X		X		X	X	X	X	X
1.A.2	Explain the positive and negative impacts of growth on a community.		X	X		X	X	X	X	X
1.A.3	Describe the solution of a R&D project in terms of its inputs, processes, and outputs and its impacts on people, society, and the environment. INSPIRE>Kids' Links>Yahooligans!>Science and Nature>Engineering>Discover Engineering	X	X	X	X	X	X	X	X	X
1.A.4	Describe the social organization and technical systems common to selected industrial, health, business, and arts careers.	X	X	X		X				

	Standard 2: Understand technology as a global system to improve, manage, and control the natural and human-made environments.									
	Introductory Level Indicators									
2.I.1	Explain connections between modern technological systems and global environmental problems. INSPIRE>Links>Education>ERIC Clearinghouse on Information and Technology>ERIC Database INSPIRE>Indiana Links>State and Local Government>Access Indiana>Law and Justice?Indiana Statutes>Environment	X	X		X	X	X			X
2.I.2	Develop a flow chart of how materials, products, and resources move around the globe.	X	X			X	X			X
2.I.3	List local companies and show their world-wide business connections.	X		X	X					
2.I.4	Collect samples of products produced around the globe and plot the location of manufacture on a world map.	X	X	X	X					X
	Systems Level Indicators									
	Communication Systems									
2.S.CM.1	Identify and compare methods of communicating an important graphic message over-seas in 1860, 1910, 1950, and today. INSPIRE>Links>U.S. Government>Gov Spot>Historic Docs	X	X	X	X	X	X	X	X	X
2.S.CM.2	Produce a current weather report and identify the original sources and routes of the information used. INSPIRE>Kids' Links>Cool Spots>The Lab> Weather>Wacky Weather	X	X	X	X	X	X	X	X	X
	Construction Systems									
2.S.CN.1	Research the origin of various building materials and techniques used in a particular structure and plot the place of origin.	X	X	X	X	X	X	X	X	X
2.S.CN.2	Construct models of various forms of housing from around the world; compare and contrast their use of materials, environment and climate, construction methods, and the use of space.	X	X	X	X	X	X	X	X	X
2.S.CN.3	Analyze a major world construction project (Suez Canal, Wall of China, etc.) and identify challenges that the builders faced with materials, site, labor, impacts on economy/ environment, international communication, and so on.	X	X	X	X	X	X	X	X	X
	Manufacturing Systems									
2.S.M.1	Develop a flow chart for a product using parts from a global market. Identify challenges with timing, shipping, communication, and laws which might occur. INSPIRE>Links>New Links>Competia Express Industry Links INSPIRE>Kids' Links>Ask Jeeves for Kids>Search "Graphic Organizers"	X	X	X	X	X	X	X	X	X
2.S.M.2	Design a product using only locally produced materials; compare this product to those made using non-locally produced materials in terms of design problems and manufacturing methods.	X	X	X	X	X	X	X	X	X
	Transportation Systems									
2.S.T.1	Research the use of standardized signals and regulations used throughout the world and recommend changes or improvements.	X	X	X	X	X	X	X	X	X
2.S.T.2	Identify ways that transportation systems extend the ability of people to move themselves and their cargo. INSPIRE>Indiana Links>Travel and Tourism>Historic Sites>Museums>Indiana Transportation Museum, Noblesville INSPIRE>Indiana Links>Travel and Tourism>Historic Sites>Museums>National Automotive and Truck Museum of the United States, Auburn INSPIRE>Indiana Links>Travel and Tourism>Historic Sites>Muesums>Studebaker National Museum, South Bend	X	X	X	X	X		X	X	X
2.S.T.3	Compare and contrast a car-based and a bicycle-based society economically, socially, and environmentally.	X	X	X	X	X	X	X	X	X
	Process Level Indicators									
2.P.1	Describe how a specific process can contribute to improving, managing, or controlling the natural or human-made environments.	X	X	X	X	X	X	X	X	X
2.P.2.	Describe how the appropriateness of specific processes varies according to the global setting in which it is applied.	X	X	X	X	X	X	X	X	X

Application Level Indicators										
2.A.1.	Explain how new products, structures, or systems impact the human-made and natural environments.	X	X			X	X			X
2.A.2.	Describe how effective community planning activities can improve the environments in which people live.	X	X	X	X	X	X	X	X	X
Standard 3: Describe technology as it is applied in the context of communication, construction, manufacturing, transportation, and related technologies.										
Introductory Level Indicators										
3.I.1	Produce a radio commercial and explain how technology was used in the process.		X	X	X	X	X	X		X
3.I.2	Produce a simple product using custom and continuous manufacturing techniques and compare the two systems.		X	X	X	X	X	X	X	X
3.I.3	Select a large technological system and identify the communication, construction, manufacturing, and transportation parts of it (if any). INSPIRE>Indiana Links>Media>Radio Networks	X	X	X	X	X	X	X	X	X
3.I.4	List technological devices that enhance the quality of life and classify them as communication, construction, manufacturing, or transportation-related devices. INSPIRE>Kids Links>How Stuff Works Express INSPIRE>Kids Links>Ask Jeeves for Kids	X	X	X			X			X
Systems Level Indicators										
Communication Systems										
3.S.CM.1	Develop a radio program from the idea to air time and describe inputs, objectives, and tasks involved.	X	X	X		X	X			X
3.S.CM.2	Communicate an idea non-verbally and analyze the process in terms of a simple communications systems model.	X	X	X	X	X	X	X	X	X
3.S.CM.3	Given funds to purchase a satellite dish, FAX machine, or a cordless phone, evaluate the devices in terms of personal or educational needs, ongoing costs, and capabilities.	X	X	X	X	X	X	X	X	X
Construction Systems										
3.S.CN.1	Develop an employment chart for a construction project and explain the job requirements involved in each position. INSPIRE>Links>Education>Dictionary of Occupational Titles INSPIRE>Links>Education>Bureau of Labor Statistics	X	X			X	X			X
3.S.CN.2	Design and build a model of a given structure and calculate costs, materials needed, space used, loads, etc.		X	X	X	X	X	X		X
3.S.CN.3	Interview a "client" to determine wants/needs for a structure and generate plans for review by the client.	X	X	X	X	X	X		X	X
3.S.CN.4	Analyze the impacts of an existing structure on the people using it, the environment, the economy, etc.	X	X	X	X	X	X	X	X	X
Manufacturing Systems										
3.S.M.1	Develop and use a market survey to evaluate a given product(s) design.	X	X	X	X	X	X	X	X	X
3.S.M.2	Analyze a given product(s) in terms of materials used, manufacturing operations performed, costs of materials and labor, uses, and impacts on people, society, and the environment.	X	X	X	X		X	X	X	X
Transportation Systems										
3.S.T.1	Develop a flow chart of inputs, processes, and outputs of a given system.		X			X	X			X
3.S.T.2	Study a given transportation system and identify the types of jobs needed to keep the system functioning. INSPIRE>Links>Education>Bureau of Labor Statistics INSPIRE>Links>Education>Dictionary of Occupational Titles	X	X	X	X	X				X
3.S.T.3	Build a model of a given vehicle or other transportation system and explain its evolution and impacts on society. INSPIRE>Indiana Links>History>Canal Society INSPIRE>Indiana Links>History>Cruise-IN.com: Celebrating Indiana Automotive History INSPIRE>Indiana Links>History>Freetown Village Living History Museum INSPIRE>Indiana Links>History>Heston Steam Museum INSPIRE>Indiana Links>History>Monon Railroad Historical/Technical Society, Inc. INSPIRE>Links>Education>Dictionary of Occupational Titles		X	X	X	X	X		X	X
3.P.1	Describe a communication, construction, manufacturing, or transportation process as a technological act.	X	X	X						
3.P.2	Explain how processes differ between communication, construction, manufacturing, and transportation technologies.		X			X	X			X

Application Level Indicators										
3.A.1	Describe how technology is used in community planning activities. INSPIRE>Indiana Links>History>Indiana Historical Society INSPIRE>Indiana Links>History>Museums at Prophetstown	X	X	X	X	X	X	X	X	X
3.A.2	Explain the difference between scientific research and technological development.	X	X			X	X			X
3.A.3	Integrate processing and management technologies to produce a simple product, structure, or technological service.	X	X	X	X	X	X			
Standard 4: Work cooperatively and productively in groups to design and use technology to solve technological problems.										
Introductory Level Indicators										
4.I.1	Work cooperatively in a group to design and build a model building. INSPIRE>Ask Jeeves for Kids INSPIRE>PBS Kids			X					X	X
4.I.2	Participate in a team to develop and record a radio or video commercial.			X	X	X	X	X		X
4.I.3	Work on a R & D team to develop a rubber band powered vehicle. INSPIRE>Kids' Links>4 Kids Site>Cool Spots			X					X	X
Systems Level Indicators										
Communication Systems										
4.S.CM.1	Work in groups to design and produce a video which tells about technology classes in your school. INSPIRE>Ask Jeeves for Kids	X	X	X	X	X	X	X	X	X
4.S.CM.2	Work in a group to design and produce a greeting card for a specific age group and occasion.	X	X	X	X	X	X	X	X	X
Construction Systems										
4.S.CN.1	As a team, design and construct a model of a simple structure such as a monument, bridge, or communication tower. INSPIRE>Ask Jeeves for Kids			X	X	X	X		X	X
4.S.CN.1	Work in a team to test the strength of various truss designs.			X					X	X
Manufacturing Systems										
4.S.M.1	As a team, develop recommendations for controlling the environmental pollution produced by your classroom activities.		X			X	X			X
4.S.M.2	Work with a group to test selected properties of various materials.	X	X	X	X	X	X	X	X	X
Transportation Systems										
4.S.T.1	Work in a group to test the effects of boat hull design on speed of travel INSPIRE>Kids' Links>4 Kids Site>Cool Spots	X	X	X	X	X	X	X	X	X
4.S.T.2	Work in a design team to develop and launch a model rocket. INSPIRE>Kids' Links>4 Kids Site>Cool Spots	X	X	X	X	X	X	X	X	X
Process Level Indicators										
Communication Processes										
4.P.CM.1	Participate in a group to produce a mass communication product which addresses a problem in your school or community.	X	X	X	X	X	X	X	X	X
Construction Processes										
4.P.CN.1	In small groups, brainstorm, then select the roof design for a storage shed which gives the most storage space.	X	X	X	X	X	X	X	X	X
Design Processes										
4.P.D.1	As a team, design a structure for a specific purpose.		X			X	X			X
4.P.D.2	Work as a product design team to develop a new, unique product.		X			X	X			X
Manufacturing Processes										
4.P.M.1	Work in a team to develop, install, and troubleshoot a piece of tooling.		X			X	X			X

	Transportation Processes								
4.P.T.1	In a team, design a publicly funded system to transport a community's low income elderly people to basic services.		X			X	X		X
4.P.T.2	As a class, evaluate the solutions of student teams to the problem of designing the most energy efficient vehicle to transport two people five miles.	X	X	X	X	X	X	X	X
	Application Level Indicators								
4.A.1	Work cooperatively in a group to develop solutions for a community development problem or in an industrial, health, business or arts setting.		X			X	X		X
4.A.2	Form and operate a model enterprise to produce a technological product, structure, or service.	X	X	X	X	X	X	X	X
4.A.3	Work in a team to identify a problem and develop possible solutions to a technological problem. INSPIRE>Links>U.S. Government>Census Bureau	X	X	X	X	X	X	X	X
	Standard 5: Identify societal and personal needs and opportunities that can be addressed through technology.								
	Introductory Level Indicators								
5.I.1	Collect examples of trends of personal needs and wants from various publications. INSPIRE>Ebsco Host	X	X	X	X	X			X
5.I.2	Identify environmental problems created by technological activities and suggest ways to correct the problem.	X	X	X	X	X	X	X	X
	Systems Level Indicators								
	Communication Systems								
5.S.CM.1	Identify the personal needs that are addressed by communication media. INSPIRE>Kids' Links>National Geographic	X	X	X	X	X	X	X	X
5.S.CM.2	Determine a communication need that exists within the school that could be solved by technology.	X	X			X			X
	Construction Systems								
5.S.CN.1	Identify an environmental problem in the community or school that could be solved by a constructed structure.	X	X	X		X		X	X
5.S.CN.2	Describe the historical correlation between advancements in construction technology and the comfort in which people lived.	X	X	X	X	X	X	X	X
	Manufacturing Systems								
5.S.M.1	Conduct a survey to determine a need or want for a product or system. INSPIRE>Indiana Links>Access Indiana	X		X	X		X		
5.S.M.2	Analyze a consumer product and recommend ways to improve it. INSPIRE>Kids' Links>PBS Kids	X	X	X	X	X	X	X	X
	Transportation Systems								
5.S.T.1	Describe ways that traffic congestion could be solved by developing new transportation means.	X	X	X	X	X	X	X	X
5.S.T.2	Explain how the mode of travel impacts the way of life of a culture.		X			X	X	X	X
	Process Level Indicators								
5.P.1	Establish needs for a product or technological service.	X	X	X	X	X	X		
5.P.2	Define a problem which can be solved by a product or technological service. INSPIRE>Kids' Links>4 Kids Site>Cool Spots	X	X	X	X	X	X	X	X
	Application Level Indicators								
5.A.1	Establish the social, economic, environmental, and technical restraints to evaluate a technological product, structure, or system.	X	X	X	X	X	X		
5.A.2	Identify a specific personal need that could be met through a R&D activity. INSPIRE>Kids' Links>4 Kids Site>Cool Spots	X	X	X	X	X		X	X
5.A.3	Define a problem that can be solved by an engineered product. INSPIRE>Kids' Links>4 Kids Site>Cool Spots	X	X	X	X	X	X	X	X
5.A.4	Assess the liability aspects of a selected product.	X	X	X	X	X	X	X	X
	Standard 6: Develop and refine alternate solutions that address technological needs and opportunities.								

Introductory Level Indicators									
6.I.1	Use brainstorming techniques to generate technological product, structure, and system ideas. INSPIRE>Kids' Links>PBS Kids	X	X	X		X	X		X
6.I.2	Use sketching techniques to develop and refine various design solutions.	X	X	X	X	X	X	X	X
Systems Level Indicators									
Communication Systems									
6.S.CM.1	Develop alternate plans for a video presentation using storyboarding and scripting techniques.		X			X	X		X
6.S.CM.2	Develop a preliminary design of a set for a television talk show using rough sketching and rendering techniques.		X			X	X		X
6.S.CM.3	Develop the final storyboard and script for a narrated slide series.		X			X	X		X
Construction Systems									
6.S.CN.1	Develop plans for a small structure or a model of a larger structure using sketching techniques.		X			X	X		X
6.S.CN.2	Use grid paper to develop alternate floor plans for a manufactured home.		X			X	X		X
Manufacturing Systems									
6.S.M.1	Develop alternate plans for a simple product using sketching techniques.		X			X	X		X
6.S.M.2	Develop a dimensioned sketch for a simple consumer product.		X			X	X		X
Transportation Systems									
6.S.T.1	Develop a map of a local community using sketching techniques.		X			X	X		X
6.S.T.2	Prepare a map for the school bus system.	X		X			X		X
6.S.T.3	Prepare sketches of a system to transport material from one location to another.	X		X			X		X
Process Level Indicators									
6.P.1	Develop alternate solutions to a design problem using rough sketching or storyboarding techniques.		X			X	X		X
6.P.2	Prepare alternate solutions using refined sketching, storyboarding, and brainstorming techniques.	X		X			X		X
6.P.3	Build mock-ups (appearance models) and prototypes (functional models) for a new product, structure, or system.			X	X	X	X		X
6.P.4	Use computer software to simulate a process or prepare a graphic model (map, chart, etc.) INSPIRE>Kids' Links>Ask Jeeves for Kids>Search "Graphic Organizers"	X	X		X		X	X	X
Application Level Indicators									
6.A.1	Develop, refine, and present alternate design ideas for products and structures. INSPIRE>Kids' Links>4 Kids Site> Cool Spots>Technowledgey>All Sites>Visual Magic	X	X	X	X	X	X	X	X
6.A.2	Build mock-ups (appearance models) and prototypes (functional models) to be used in market research activities.			X	X	X	X		
6.A.3	Use computer software to tabulate results of market surveys.	X	X		X		X	X	X
6.A.4	Prepare renderings of various solutions to a neighborhood renovation project.	X		X			X		X
6.A.5	Contribute to a brainstorming session to refine solutions for a product development, community planning, or R&D project.			X	X		X	X	X
Standard 7: Evaluate and select appropriate solutions that address technological needs and opportunities.									
Introductory Level Indicators									
7.I.1	Select evaluation criteria for a product or technological service. INSPIRE>Internet Links>U. S. Government>GovSpot	X	X		X		X	X	X
7.I.2	Select the best design solution using established criteria.	X	X		X		X	X	X
Systems Level Indicators									
7.S.1	Develop evaluation criteria for a product or technological service.	X	X	X	X	X	X	X	X
7.S.2	Apply criteria to select an appropriate solution to a technological problem or opportunity.			X	X		X		X
Process Level Indicators									
7.P.1	Develop evaluation criteria and rating scales to assess product and technological service ideas.		X			X	X		X
7.P.2	Test operational characteristics using prototypes.	X	X	X	X	X	X	X	X
7.P.3	Conduct a consumer or client acceptance study using graphic and/or physical models.	X	X	X	X	X	X	X	X

7.P.4	Use information to select appropriate design solutions.	X	X	X	X	X	X	X	X	X
7.P.5	Evaluate a product, structure, or systems design against codes and regulations. INSPIRE>Indiana Links>State & Local Government>Indiana Legislators>Law & Administrative Rules>Indiana Code>Title 14 and Title 15	X	X	X	X	X	X	X	X	X
	Application Level Indicators									
7.A.1	Develop and apply criteria to evaluate a product or service that could be produced for a mass market. INSPIRE>Internet Links>U. S. Government>FirstGov>A-Z Agency Index>Bureau of Labor Statistics	X	X	X	X	X	X	X	X	X
7.A.2	Develop and apply criteria to evaluate proposals for community development or redevelopment projects.	X	X	X	X	X	X	X	X	X
7.A.3	Develop and apply criteria to evaluate the results of a technological research and development project.	X	X	X	X	X	X	X	X	X
	Standard 8: Specify solutions to stated needs and opportunities using appropriate technical means.									
	Introductory Level Indicators									
8.I.1	Prepare a dimensioned sketch for a product or technological service.	X		X			X			X
8.I.2	Prepare a bill of materials for a product or technological system.	X		X			X			X
8.I.3	Prepare the final script for a television or radio commercial.	X		X			X			X
8.I.4	Prepare a layout for a printed product.	X		X			X			X
	Systems Level Indicators									
8.S.1	Prepare a dimensioned drawing for a product or technological service.	X		X			X			X
8.S.2	Prepare a bill of materials and cost estimate for a product or technological service.	X		X			X			X
8.S.3	Prepare a comprehensive layout for a printed product. INSPIRE>Internet Links>U. S. Government>GovSpot>Consumer Info>Consumer Info Center	X		X			X			X
8.S.4	Prepare a script and production directions for a short radio or television program.	X		X			X			X
	Process Level Indicators									
8.P.1	Prepare engineering/architectural drawings using a computer system for a product or technological service.	X		X			X			X
8.P.2	Use computer software to prepare a list of materials, specifications, and cost estimate for a product or technological service using a computer system.	X	X	X	X	X	X	X	X	X
8.P.3	Prepare and present a final engineering report or client presentation for a given design solution. INSPIRE>Ebsco Host	X	X	X	X	X	X	X	X	X
8.P.4	Prepare an environmental impact report on a product, structure, or service.	X		X			X	X	X	X
	Application Level Indicators									
8.A.1	Prepare drawings for a product or service that could be produced for a mass market.	X		X			X			X
8.A.2	Develop engineering drawings, renderings, and topographical maps for a community development or redevelopment plan. INSPIRE>Kids' Links>4 Kids Site>Cool Spots>Search>Urban	X		X			X			X
8.A.3	Use various techniques to communicate decisions, solutions to problems, and inventions developed in industrial, health, business, and arts contexts.	X	X	X	X	X	X	X	X	X
8.A.4	Develop drawings, written descriptions, and project schedules for producing a product or structure.	X		X			X			X
8.A.5	Use and interpret common measurement, graphics, and communication conventions in a manufacturing or construction engineering project.	X	X	X	X	X	X	X	X	X
	Standard 9: Select the appropriate resources needed to produce and operate communication, construction, manufacturing, transportation, and other technological systems and artifacts.									
	Introductory Level Indicators									
9.I.1	Identify the major classes of resources used by technological activities.	X	X	X		X		X	X	X
9.I.2	List the materials used to produce a simple product.	X		X						

Systems Level Indicators									
Communication Systems									
9.S.CM.1	Identify the human, material, and equipment resources needed to produce a flyer. INSPIRE>Internet Links>Art & Music>Artcyclopedia INSPIRE>Indiana Links>Travel &Tourism>Visit Indiana>Dining INSPIRE>Indiana Links>Travel &Tourism>Visit Indiana>Accomodations	X	X	X		X		X	X
9.S.CM.2	Choose the best film and camera lens to use when photographing a slide series.	X	X	X	X	X	X	X	X
Construction Systems									
9.S.CN.1	Determine quantity and cost of the materials needed to construct a small structure.	X	X			X			X
9.S.CN.2	Identify the heavy equipment required to prepare a highway roadbed.	X	X	X		X		X	X
Manufacturing Systems									
9.S.M.1	Identify the material handling devices needed for a production operation.	X	X	X		X		X	X
9.S.M.2	List the supplies needed to complete a typical manufacturing process.	X		X					
Transportation Systems									
9.S.T.1	Assemble a guide way for a magnetic levitation vehicle.			X		X		X	
9.S.T.2	Select the appropriate recovery system for a model rocket.	X	X		X	X	X	X	X
Process Level Indicators									
Communication Processes									
9.P.CM.1	Specify the optimal type of microphones for use during a videotaping activity.	X	X			X			X
9.P.CM.2	Determine the required inks, paper, and related supplies needed to print a multicor brochure.	X	X			X			X
9.P.CM.3	Assemble the appropriate equipment and materials to layout a printed product.			X		X		X	
Construction Processes									
9.P.CN.1	Specify the necessary surveying devices to measure a small plot.	X		X		X			X
9.P.CN.2	Specify the tools and supplies required to build a structure.	X		X		X			X
9.P.CN.3	Calculate the total number of concrete blocks required for a foundation.		X		X	X	X		X
Design Processes									
9.P.D.1	Develop a bill of materials for a designed product or structure. INSPIRE>Kids' Links>4 Kids Site>Cool Spots>Automotive	X	X			X			X
9.P.D.2	Prepare a cost estimate for a product or structure.	X		X		X			X
Manufacturing Processes									
9.P.M.1	Specify the tooling needed for a continuous production line. INSPIRE>Kids' Links>How Stuff Works Express	X	X			X			X
9.P.M.2	Specify the tools and materials required to build a consumer product..	X	X			X			X
Transportation Systems									
9.P.T.1	Determine the guidance information required to fly a private aircraft to a specific destination.	X	X			X			X
9.P.T.2	Identify the energy resources used by various transportation systems.	X	X	X		X		X	X
Application Level Indicators									
9.A.1	Determine an appropriate arrangement of machinery and laboratory equipment for a manufacturing line.	X	X			X			X
9.A.2	Determine the human, material, and equipment needs for a technological research and development project.	X	X			X			X
9.A.3	Estimate the financial needs for a community development project.		X	X			X		
Standard 10: Select the appropriate processes needed to produce or operate products, structures, and systems.									
Introductory Level Indicators									
10.I.1	List the major types of technological processes.	X		X					
10.I.2	Prepare a simple flow process chart for a technological action.	X		X		X			X
10.I.3	Identify the processes used to produce a simple technological product.	X	X	X		X		X	X

Systems Level Indicators									
Communication Systems									
10.S.CM.1	In a group activity, determine the best way to instruct other students on how to do an activity, such as drilling a hole.	X	X				X		X
10.S.CM.2	Select the best method to a print message on a substrate like a sweatshirt. INSPIRE>Ebsco Host	X	X	X	X	X	X	X	X
Construction Systems									
10.S.CN.1	Determine the best way to construct a simple building.	X	X				X		X
10.S.CN.2	Select an appropriate method to construct a civil structure such as a dam or road.	X	X	X	X	X		X	X
Manufacturing Systems									
10.S.M.1	For a given item, select the process needed for its production.	X	X		X	X		X	X
10.S.M.2	Develop a flow chart of how a product is produced. INSPIRE>Kids' Links>RefDesk>Search>Graphic Organizers	X	X			X	X		X
Transportation Systems									
10.S.T.1	Select the best mode of transportation to get people and materials to a destination in the least expensive way.	X	X		X	X		X	X
10.S.T.2	Select a product that would make cars safer and determine the effects it would have on the appearance, performance, and cost of the vehicle. INSPIRE>Internet Links>U.S. Government>FirstGov>Search>Consumer Safety	X	X		X	X		X	X
Process Level Indicators									
Communication Processes									
10.P.CM.1	Select a method of producing a student newspaper to inform other students about the happenings around school.	X	X		X	X		X	X
10.P.CM.2	Differentiate between the production processes used to produce radio and television messages.	X	X	X	X	X	X	X	X
Construction Processes									
10.P.CM.1	For a given location determine the type of foundation needed for a given structure.	X	X			X			X
10.P.CM.2	Determine the techniques needed to produce a roof for a given structure.	X	X			X			X
Design Processes									
10.P.D.1	Describe how a family structure for the year 2040 might be built.	X	X	X					
Manufacturing Processes									
10.P.M.1	Analyze a commercially produced product to determine the processes used to produce it.	X	X	X	X		X	X	X
10.P.M.2	Investigate a state-of-the-art process and indicate how it can be used in the technology education laboratory.	X	X	X	X	X	X	X	X
Transportation Processes									
10.P.T.1	Select the best shipping container that will withstand a ten-foot fall.	X	X	X			X	X	X
10.P.T.2	As a group, study the design of magnetic levitation vehicles and select the fastest and most efficient one.	X	X	X	X	X	X	X	X
Application Level Indicators									
10.A.1	Selecting the correct processes to produce, promote, and distribute a product for the mass market.	X	X	X	X	X	X	X	X
10.A.2	Selects appropriate management methods to reach a goal.	X	X	X	X	X	X	X	X
Standard 11: Efficiently use appropriate processes to produce communication, construction, manufacturing, transportation, and related devices and systems.									
Introductory Level Indicators									
11.I.1	Use tools and machines to produce a product or create a model of a structure.		X	X	X	X	X	X	X
11.I.2	Produce a communication product.				X	X	X		X
Systems Level Indicators									
Communication Systems									
11.S.CM.1	Write and produce a radio or TV commercial.			X	X	X	X	X	X
11.S.CM.2	Produce a series of photographs which communicate an idea or message. INSPIRE>Kids' Links>4 Kids Site>Cool Spots>Search>Photography>Access Art with New Appreciation			X	X	X	X		X

	Construction Systems									
11.S.CN.1	Describe the types of processes used to construct a structure.		X	X	X	X	X	X	X	X
11.S.CN.2	Construct and test a model structure.			X	X	X	X			
	Manufacturing Systems									
11.S.M.1	Identify the families of manufacturing processes.	X	X	X	X	X	X	X	X	X
11.S.M.2	Build a product using the common families of manufacturing processes.			X	X	X	X			
	Transportation Systems									
11.S.T.1	Identify the components of a transportation.	X	X	X	X	X	X	X	X	X
11.S.T.2	Build and test a model of a new vehicle. INSPIRE>Kids' Links>4 Kids Site>Cool Spots>The Lab>Flight>Legends of the Air INSPIRE>Kids' Links>4 Kids Site>Cool Spots>Search>Model Car>Build Your Own Submarine	X	X	X	X	X	X	X	X	X
	Process Level Indicators									
	Communication Processes									
11.P.CM.1	Produce a printed communication product.			X	X	X	X	X		X
11.P.CM.2	Develop graphic media using mechanical and computer systems.	X	X	X	X	X	X	X	X	X
11.P.CM.3	Record and edit electronic messages.	X	X	X	X	X	X	X	X	X
11.P.CM.4	Transmit radio signals using a low-power radio broadcasting set.	X	X	X		X	X		X	X
	Construction Processes									
11.P.CN.1	Layout a simple structure. INSPIRE>Kids' Links>4 Kids Site>Cool Spots>Search>Building>Bob the Builder	X		X						X
11.P.CN.2	Construct a concrete foundation.			X	X	X	X			
11.P.CN.3	Build a storage structure.			X	X	X	X			
11.P.CN.4	Construct a model high-rise structure.			X	X	X	X			
	Design Processes									
11.P.D.1	Use appropriate techniques to record original design ideas.		X	X	X	X	X	X	X	X
11.P.D.2	Use computer systems to develop plans for products and structure s.		X	X	X	X	X	X	X	X
	Manufacturing Systems									
11.P.M.1	Use processes to shape, size, condition, finish, and assemble materials.		X	X	X	X	X	X	X	X
11.P.M.2	Design, install, and test tooling to perform a manufacturing operation.		X	X	X	X	X	X	X	X
11.P.M.3	Design and use appropriate inspection gages and techniques.		X	X	X	X	X	X	X	X
11.P.M.4	Control machine actions with instructions (i.e., program or code).			X	X	X	X			
	Transportation Systems									
11.P.T.1	Build and test a water, air, or space vehicle.		X	X	X	X	X	X	X	X
11.P.T.2	Test a control system to guide a vehicle.	X	X	X	X	X	X	X	X	X
11.P.T.3	Use computer software to develop and test land vehicle systems.		X	X	X	X	X	X	X	X
11.P.T.4	Select and test a propulsion system for a simple vehicle.		X		X		X	X	X	X
	Application Level Indicators									
11.A.1	Selects appropriate processes for an industrial, health, business, or arts activity.		X		X		X	X	X	X
11.A.2	Address a technological problem using research and development techniques. INSPIRE>Indiana Links>State & Local Government>Access Indiana>Business Services>Department of Workforce Development	X	X	X	X	X	X	X	X	X
	Standard 12: Select the appropriate devices and systems to meet personal and societal needs.									
	Introductory Level Indicators									
12.I.1	Identify products or services based on performance, value, and cost factors.	X	X	X		X		X	X	X
12.I.2	Determine the most appropriate machine for a specific task.	X	X	X	X	X	X	X	X	X

Systems Level Indicators									
Communication Systems									
12.S.CM.1	Select an appropriate camera to take family photographs. INSPIRE>Internet Links>Art & Music, Librarian's Index to the Internet: Photography	X	X	X	X	X	X	X	X
12.S.CM.1	Select a computer game that will both entertain and educate the participant.	X	X	X	X	X	X	X	X
Construction Systems									
12.S.CN.1	Select an appropriate wall treatment for a room.	X	X	X	X	X	X	X	X
12.S.CN.2	Select a appropriate type of dwelling for a single person, couple, or family.	X	X	X	X	X	X	X	X
Manufacturing Systems									
12.S.M.1	Select a proper finish for a refinished antique.	X	X	X	X	X	X	X	X
12.S.M.2	Select the proper tools needed to service or do minor repairs on a manufactured item.	X	X	X	X	X	X	X	X
Transportation Systems									
12.S.T.1	Identify the most direct route (roadways) between two cities or from home to a remote vacation spot.	X	X	X	X	X		X	X
12.S.T.2	Describe the differences in octane ratings in terms of fuel efficiency and engine performance.	X	X	X	X	X	X	X	X
Process Level Indicators									
Communication Processes									
12.P.CM.1	Select an appropriate camera lens to produce special effects.	X	X	X	X	X	X	X	X
12.P.CM.2	Analyze and select an appropriate digital camera for home use to take family photographs or videos.		X	X	X		X	X	X
Construction Processes									
12.P.CN.1	Select the plumbing components necessary for installing a garbage disposal.	X	X	X	X	X	X	X	X
12.P.CN.2	Select the proper amounts of concrete, aggregate, sand, and water to pour a small sidewalk block or foundation.	X	X	X	X	X	X	X	X
Design Processes									
12.P.D.1	Select a product in terms of its appropriate functional and aesthetic design.	X	X	X	X	X	X	X	X
Manufacturing Processes									
12.P.M.1	Analyze a product in terms of the appropriateness of the materials used in its manufacture.		X	X	X		X	X	X
12.P.M.2	Select a machine that would be appropriate for a specific production-related hobby.	X	X	X	X	X	X	X	X
Transportation Processes									
12.P.T.1	Specify a fuel that might enhance engine performance, fuel economy, or reduce pollution in a typical vehicle.	X	X	X	X	X	X	X	X
12.P.T.2	Analyze and select the best mode of transportation for a specific type of trip.	X	X	X	X		X	X	X
Application Level Indicators									
12.A.1	Conduct a research project to determine the appropriate material or device to perform a technological task.	X		X	X		X		
12.A.2	Conduct a market survey to determine interest in a specific product.	X		X	X		X		
Standard 13: Appropriately operate technological devices and systems.									
Introductory Level Indicators									
13.I.1	Read an owner's manual to determine the appropriate operating procedures for a device.	X		X		X			X
13.I.2	Use the proper tools to process materials.		X	X	X	X	X	X	X
Systems Level Indicators									
Communication Systems									
13.S.CM.1	Use a modem to link with an electronic bulletin board.		X	X	X	X	X	X	X
13.S.CM.2	Use a digital camera to record the events at a gathering of people.		X	X	X	X	X	X	X
13.S.CM.3	Operate darkroom equipment to prepare a photographic print.	X	X	X	X	X	X	X	X
Construction Systems									
13.S.CN.1	Properly use tools to apply a wall treatment for a room.	X	X	X	X	X	X	X	X
13.S.CN.2	Properly set a building thermostat to maintain a desired comfort level and conserve energy.	X	X	X	X	X	X	X	X
13.S.CN.3	Use proper tools and materials to make a concrete item.	X	X	X	X	X	X	X	X

	Manufacturing Systems									
13.S.M.1	Appropriately operate manufacturing tools to make a simple product.	X	X	X	X	X	X	X	X	X
13.S.M.2	Use tooling to produce an interchangeable part for a simple product. INSPIRE>Kids' Links>How Stuff Works Express	X		X	X	X	X	X	X	X
	Transportation Systems									
13.S.T.1	Use a transportation system to move a specified cargo over a specified distance.	X	X	X	X	X	X	X	X	X
13.S.T.2	Use a model to demonstrate the correct use of a sail to provide power for a boat.	X	X	X	X	X	X	X	X	X
	Process Level Indicators									
	All courses at this level emphasis proper use of tools and machines to process materials, energy, or information. See Standards 9 -12 for specific indicators.									
	Application Level Indicators									
13.A.1	Use appropriate tools and methods to produce a manufactured or communication product.	X	X	X	X	X	X	X	X	X
13.A.2	Use appropriate test apparatus to conduct a research and development project.	X	X	X	X	X	X	X	X	X
13.A.3	Use appropriate computer software to develop maps for a community plan.	X	X	X	X	X	X	X	X	X
13.A.4	Uses devices to test materials.	X	X	X	X	X	X	X	X	X
13.A.5	Use computers to plan, document, and coordinate projects.	X	X	X	X	X	X	X	X	X
	Standard 14: Recognize the need for servicing and repairing technological devices and systems.									
	Introductory Level Indicators									
14.I.1	Describe the importance of maintenance for products, systems, and structures. INSPIRE>Kids' Links>National Geographic	X			X	X	X	X	X	X
14.I.2	Perform simple service on a product and record actions performed.	X	X	X	X	X	X	X	X	X
	Systems Level Indicators									
14.S.1	Read an owner's or service manual to determine the servicing needs of a product or vehicle. INSPIRE>Indiana Links>State & Local Government>Access Indiana>Business Services>Department of Workforce Development	X								
				X			X			X
14.S.2	Use the proper tools to make routine adjustments and repairs on products and structures.	X	X	X	X	X	X	X	X	X
	Process Level Indicators									
14.P.1	Identify when a product, structure, or system cannot be feasibly repaired.	X	X	X	X	X	X	X	X	X
14.P.2	Make routine repair on technological devices and systems.		X	X	X	X	X	X	X	X
	Application Level Indicators									
14.A.1	Identify a city area that could use renovation or new industrial/commercial activity.	X	X	X		X	X	X	X	X
14.A.2	Analyze existing products to identify a need for a research and development activity.		X	X	X		X	X	X	X
	Standard 15: Properly dispose or recondition worn out and obsolete technological devices.									
	Introductory Level Indicators									
15.I.1	Describe the importance of properly disposing of worn out and obsolete products, systems, and structures. INSPIRE>Indiana Links>State & Local Government>Access Indiana>Business Services>Department of Environmental Management INSPIRE>Kids' Links>National Geographic	X	X	X						
15.I.2	Conduct a school survey to identify recyclable materials that are being sent to local landfills.	X		X	X		X			
15.I.3	Convert a waste material into a useful product.			X	X	X	X			
	Systems Level Indicators									
15.S.1	Salvage useful parts and materials from worn out products and structures.	X	X	X	X	X	X	X	X	X
15.S.2	Develop a waste recycling plan and center for the school or community.		X			X	X			X
15.S.3	Explain the life-cycle of a typical product or structure.		X			X	X			X
15.S.4	Recondition a simple consumer product.			X	X	X	X			

	Process Level Indicators									
15.P.1	Design a product that can be completely recycled at the conclusion of its initial life cycle.	X	X	X	X	X	X	X	X	X
15.P.2	Visit a historic structure and determine ways it can be restored.	X	X	X	X	X	X	X	X	X
15.P.3	Determine new commercial or public use of an abandoned right-of-way.	X	X				X			X
15.P.4	Develop a set of plans to remodel a structure.		X			X	X			X
15.P.5	Re-process waste motor oil into a useful product or ingredient.	X	X	X	X	X	X	X	X	X
	Application Level Indicators									
15.A.1	Conduct a research and development project that will identify ways to reduce waste from a local company.	X		X	X		X			
15.A.2	Determine new commercial or public uses for an abandoned right-of-way.	X	X				X			X
	Standard 16: Determine the impact of technological actions on people, society, and the environment.									
	Introductory Level Indicators									
16.I.1	Consider the environmental impact of producing and using products. INSPIRE>Indiana Links>State & Local Government>Access Indiana>Business Services>Department of Environmental Management INSPIRE>Internet Links>U. S. Government>FirstGov>Environment, Energy and Agriculture>Environmental Protection Agency									
			X	X		X		X	X	
16.I.2	Survey people on their attitudes about living in housing units above three floors.	X	X	X	X	X	X	X	X	X
16.I.3	Identify possible planned and unplanned personal, social, environmental, and economic impacts of technological systems and devices.	X	X	X	X	X	X	X	X	X
16.I.4	Evaluate the performance and impacts of a system or consumer product		X	X	X	X	X	X	X	X
	Systems Level Indicators									
	Communication Systems									
16.S.CM.1	Survey the way fax machines have changed the way business, industry, marketing, and the home operate.	X	X	X	X		X	X	X	X
16.S.CM.2	Analyze advertisements for clues of gender, ethnic, age, economic, and political bias and develop a cultural alternative.		X	X	X	X	X	X	X	X
16.S.CM.3	Investigate the use and abuse of information as it is gathered, sorted, retrieved, and sold.	X	X	X	X	X	X	X	X	X
	Construction Systems									
16.S.CN.1	Analyze the advantages and disadvantages of building new versus restoring existing structures.		X	X	X	X	X	X	X	X
16.S.CN.2	Analyze a neighborhood in terms of housing density and recommend guidelines for lot size, streets, parks, etc.		X	X	X	X	X	X	X	X
	Manufacturing Systems									
16.S.M.1	Trace the changes in career skills needed for machine operators and machine watchers in computer controlled production. INSPIRE>Internet Links>Jobs & Careers>Occupational Outlook Handbook INSPIRE>Internet Links>Jobs & Careers>America's Career Infonet									
		X	X	X	X	X	X	X	X	X
16.S.M.2	Compare the cost of a manufactured product produced 25 years ago with its current cost (adjusted for inflation).	X	X	X	X	X	X	X	X	X
	Transportation Systems									
16.S.T.1	Survey people regarding their attitudes about personal automobiles versus mass transit.	X	X	X	X	X	X	X	X	X
16.S.T.2	Analyze design changes in an automobile in terms of technological advancements.	X	X	X	X	X	X	X	X	X
	Process Level Indicators									
	No specific indicators.									
	Application Level Indicators									
16.A.1	Analyze the set-up of workstations for being most fitting for the humans who work there (human factors engineering).	X	X	X	X	X	X	X	X	X
16.A.2	Survey signs in the community for the quantity, size, boldness, visual blockage, and vital information provided; and develop a community code for signage.		X	X	X	X	X	X	X	X
16.A.3	Analyze the impact of residential land use on agriculture and recreation.	X	X	X	X	X	X	X	X	X

16.A.4	Assess the value, contribution, and potential detriments of proposed products during the product development phase of manufacturing.		X	X	X	X	X		X	X
16.A.5	Investigate how governmental agencies evaluate the safety of public transportation vehicles, pathways, bridges, and operators.	X	X	X	X	X	X	X	X	X
16.A.6	Develop and conduct an R & D project that would result in a technical device which improves a person's daily life.		X			X	X			X
16.A.7	Automate a simple task and evaluate its impact on employment, worker skill, employee satisfaction, etc.	X	X	X	X	X	X	X	X	X
16.A.8	Evaluate the social, environmental, and economic impact of an engineering project.	X	X	X	X	X	X	X	X	X
Standard 17: Describe the relationships among entrepreneurship, business enterprises, and technology.										
Introductory Level Indicators										
17.I.1	Operate a teacher established simple enterprise. INSPIRE>Ebsco Host		X	X	X	X	X	X	X	X
17.I.2	Identify the role of owners, managers, and workers in an enterprise. INSPIRE>Kids' Links>Cool Spots>TecKNOWLEDGEy>Enterprise	X	X	X	X	X		X	X	X
Systems Level Indicators										
17.S.1	Develop a managerial structure for a simple business enterprise.		X			X	X			X
17.S.2	Describe the common forms of business ownership. INSPIRE>Kids' Links>Cool Spots>TecKNOWLEDGEy>Enterprise		X	X	X	X	X	X	X	X
17.S.3	Select an appropriate product or service that can be produced.		X		X		X	X	X	X
17.S.4	Produce a simple product or technological service.			X	X	X	X	X		X
17.S.5	Maintain production records for a simple business enterprise.		X	X	X	X	X	X	X	X
17.S.6	Advertise a product or technological service.		X	X	X	X	X	X	X	X
Process Level Indicators										
No specific indicators.										
Application Level Indicators										
17.A.1	Select an appropriate form of ownership for an enterprise.	X	X	X	X	X	X	X	X	X
17.A.2	Develop a managerial structure for an enterprise.		X			X	X			X
17.A.3	Obtain financing for an enterprise.	X			X	X	X		X	X
17.A.4	Design and engineer a product or technological service.	X	X	X	X	X	X	X	X	X
17.A.5	Design and engineer a production system.	X	X	X	X	X	X	X	X	X
17.A.6	Develop a marketing plan for a product or technological service.		X			X	X			X
17.A.7	Maintain personnel and financial records.		X	X			X			X
17.A.8	Sell products and maintain sales records		X	X	X	X	X	X	X	X
17.A.9	Explain the legal aspects, such as patents and liability, in managing a technological enterprise.	X	X	X	X	X	X	X	X	X